

Claims:

1. An aqueous composition for coating stainless steel containing:
 - (a) at least one dispersed polyurethane prepolymer having at least some blocked isocyanate groups;
 - (b) at least one other cross-linkable polymer dispersion or polymer solution; and
 - (c) optionally, wetting agents and dispersants and flow control agents.
- 10 2. A composition as claimed in claim 1 wherein the dispersed blocked polyurethane prepolymer is prepared from low molecular weight polyols and aliphatic diisocyanates.
- 15 3. A composition as claimed in claim 2 wherein the blocking agent is selected from aldoximes, ketoximes, lactams, imidazole compounds, β -dicarbonyl compounds, alcohols, phenols, thioalcohols, thiophenols, secondary amines, amides, imides or hydroxamates.
- 20 4. A composition as claimed in claim 2 or claim 3 wherein there is used as the polyisocyanate an aliphatic or cycloaliphatic diisocyanate selected from the group consisting of:
4,4'-dicyclohexylmethane diisocyanate (H₁₂MDI), 1-isocyanatomethyl-3-isocyanato-1,5,5-trimethyl cyclohexane (isophorone diisocyanate, IPDI), cyclohexane 1,4-diisocyanate, hydrogenated xylene diisocyanate (H₆XDI), 1-methyl-2,4-diisocyanato-cyclohexane, m- or p-tetramethylxylene diisocyanate (m-TMXDI, p-TMXDI), dimeric fatty acid diisocyanates, tetramethoxybutane 1,4-diisocyanate, butane 1,4-diisocyanate, hexane 1,6-diisocyanate (HDI), 1,6-diisocyanato-2,2,4-trimethylhexane, 1,6-diisocyanato-2,4,4-trimethylhexane, and dodecane 1,12-diisocyanate (C₁₂DI).
- 30 5. A composition as claimed in claim 1 wherein the other cross-linkable polymer component (b) is selected from reactive (meth)acrylate copolymers, polyurethane dispersions based on polyesters, polycarbonates or polyethers, epoxide resin

dispersions or water-soluble or water-dispersible melamine/formaldehyde resins.

6. Use of a composition as claimed in claims 1 to 5 for preparing thin, dirt-repelling, hydrolysis-resistant and scratch-resistant coatings on stainless steel.
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7. A process for coating stainless steel with scratch-resistant, dirt-repelling, thin layers, characterised in that it comprises the following steps:
 - optionally, clean and degrease the stainless steel,
 - optionally, rinse the surface,
 - 10 • optionally, treat the metal surface with an adhesion promoter,
 - coat the surface with a composition as claimed in at least one of claims 1 to 5 so that, after curing, a coating is obtained having a weight per unit area of 0.1 to 10 g/m², preferably 0.5 to 5 g/m²,
 - optionally, evaporate off volatile constituents,
 - 15 • cure the coating at temperatures between 100 and 250°C for a period of 0.5 seconds to 40 minutes.
8. A process as claimed in claim 7 wherein the composition as claimed in claims 1 to 5 is applied to the surface of the strip by flow coating/squeezing, spraying/squeezing, suitable wiper and/or roller application.
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9. A process according as claimed in 7 wherein the composition as claimed in claims 1 to 5 is applied to the surface of the shaped workpiece by spray application or by application with a brush.
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10. A process as claimed in claim 9 wherein an airless, air-assisted or electrostatically-supported spray process is used as a spray system.
11. Use of the stainless steel coated as claimed in claims 7 to 10 for producing machines and equipment for the domestic, sanitary and clinical sectors and also for the food processing or pharmaceutical industries.
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